

LEW-17,133-3

PATENT

IN THE UNITED STATES PATENT AND TRADEMAR OFFICE

In re Application of:	:	Group Art Unit: 1711
Michael A. Meador	:	Patent Examiner:
Serial No. New Application	:	
Field: Herewith	:	
For: Polyimides By Photochemical Polymerization	:	

INFORMATION DISCLOSURE STATEMENT

Honorable Commissioner of Patents and Trademarks
Washing, D.C. 20231

Sir:

Pursuant to 37 C.F.R. 1.56 and in accordance with 37 C.F.R. 1.97-1.98,
submitted herewith is Form PTO 1449 together with statements regarding the following
publications as they relate to the above-identified Application for patent.

Polyimide synthesis by M. A. Meador et al. Macromolecules Vol. 29, No. 27
(1966) pages 8983-8986. This publication discloses the preparation of aromatic
polyimides which utilizes QDMs generated by a photochemical reaction. Photolysis of
o-methylbenzophenone produces hydroxy-o-quinodimethane which can be trapped with
dieneophiles, such as dimethyl acetylenedicarboxylate to give the corresponding
cycloadduct. The process employs 2,5-dibenzoyl-p-xylene which upon photolysis

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produces two photoenol moieties that undergo Diels-Alder cycloadditions. In the presence of stoichiometric amounts of bismaleimides, the process provides polyimides.

Diels-Alder reactions are used to trap unstable intermediate compounds; see NASA Tech Briefs, March 1999. This publication discloses a Diels-Alder route to the synthesis of polyimides that involves the use of ultraviolet light, rather than heat, to effect polymerization. The process is based upon a photochemical reaction i.e. the photoenolization of methylphenyl ketones which can be carried out at room temperature.

Sampe, Jour., Vol. 36 No. 5 Sept./Oct. 2000. This publication discloses UV curable polyimides which are high temperature polymers that can be cured at or near room temperature using ultraviolet light to achieve the physical properties typical of polyimides with less shrinkage.

The Examiner is respectfully requested to make the above-identified publications of record in this Application as required by MPEP Section 609. This Information Disclosure Statement should not be construed as a representation that no better prior art exists.

Respectfully submitted

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